BEFORE THE DEPARTMENT OF
NATURAL RESOURCES AND CONSERVATION
OF THE STATE OF MONTANA

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APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 41QJ 30150342 BY RJM ASSET MANAGEMENT LLC	**)))**	**PRELIMINARY DETERMINATION TO GRANT PERMIT**

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On November 16, 2020, RJM Asset Management, LLC (Applicant) submitted Application for Beneficial Water Use Permit No. 41QJ 30150342 to the Lewistown Water Resources Regional Office of the Department of Natural Resources and Conservation (Department or DNRC). The proposed project included an appropriation from groundwater for purposes of Multiple Domestic and Lawn and Garden. The Department published receipt of the Application on its website. On March 31, 2021 the Applicant modified the application and the priority date was reset to the date of modification.[1] The Application was determined to be correct and complete as of June 14, 2021. An Environmental Assessment for this Application was completed on July 16, 2021.

INFORMATION

The Department considered the following information submitted by the Applicant, which is contained in the administrative record.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600, including maps and attachments
- Aquifer Testing Addendum and supplement/attachments
- Basin Closure Area Addendum
- Hydrogeologic Assessment Report Addendum and attachments
- Copy of the Department's Variance for Aquifer Testing Requirements (dated October 13, 2020)

[1] The modification included a redesign of the subdivision, and a reduction in the amount to be appropriated from 520 gallons per minute and 22.62 acre-feet annually, to 380 gallons per minute and 18.66 acre-feet.

Information Received after Application Filed

- Applicant's deficiency response received March 31, 2021.
- Amendment to application received March 31, 2021
- Email exchanges between the Department and Applicant clarifying minor aspects of the application materials

Information within the Department's Possession/Knowledge

- Aquifer Test Report, dated April 21, 2021 by Evan Norman, Groundwater Hydrologist with the DNRC Water Management Bureau
- Depletion Report, dated April 21, 2021 by Evan Norman, Groundwater Hydrologist with the DNRC Water Management Bureau
- Department water rights records of existing rights.
- USGS Missouri River gage data near Ulm MT (Gage No. 06078200)
- The Department also routinely considers the following information. This information is not included in the administrative file for this Application but is available upon request. Please contact the Lewistown Regional Office at 406-228-2561 to request copies of the following documents.
    - Technical Memorandum: Physical and Legal Availability of Ground Water April 22, 2019
    - Technical Memorandum: DNRC Consumptive Use Methodology – Turf Grass March 23, 2010
    - Technical Memorandum: Net Surface Water Depletion from Ground Water Pumping July 6, 2018

The Department has fully reviewed and considered the evidence and argument submitted in this Application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

PROPOSED APPROPRIATION

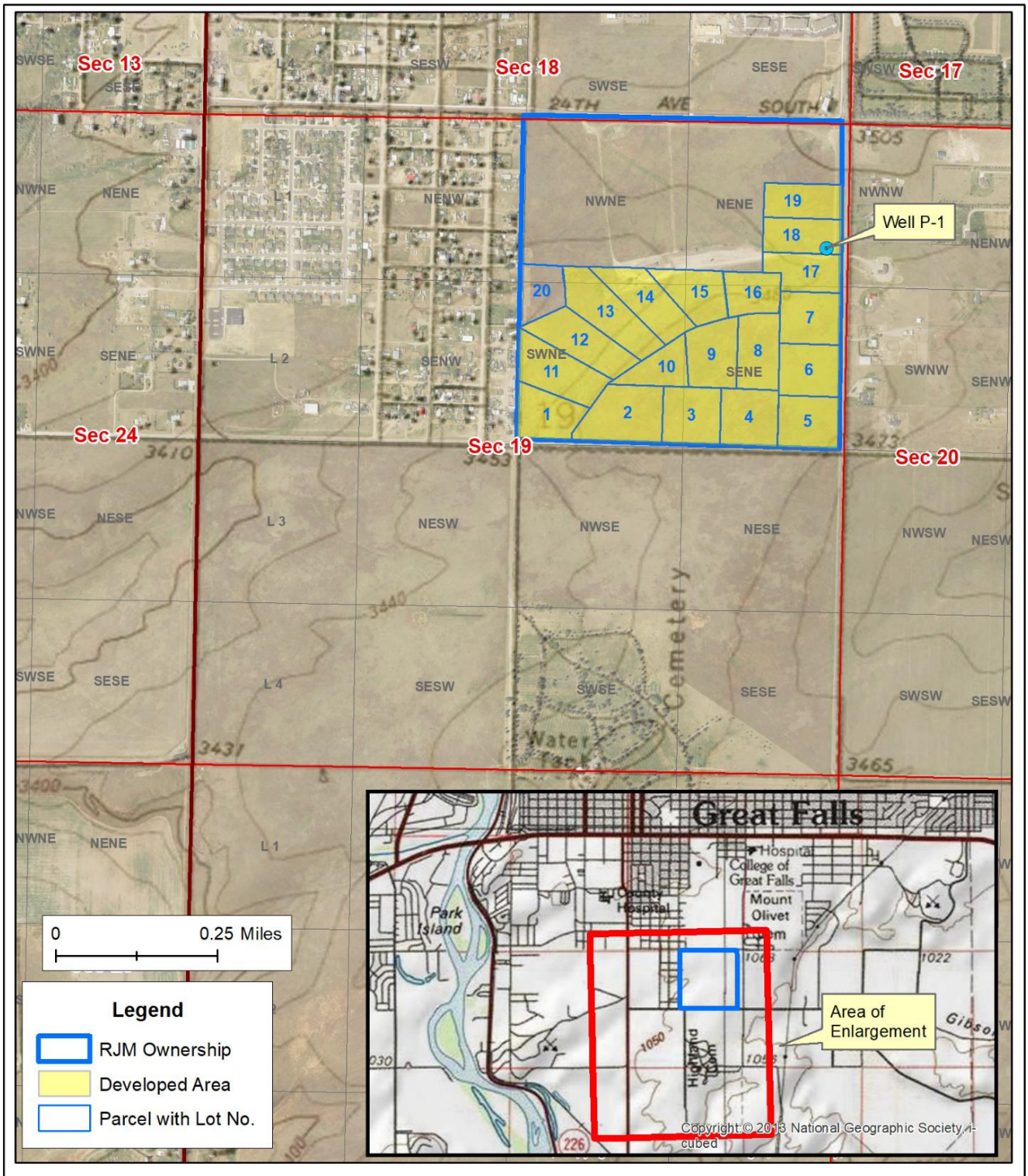
FINDINGS OF FACT

1. The Applicant proposes to divert groundwater from the limestone of the Madison Aquifer, by means of 19 wells, from January 1 to December 31, at a combined flow rate of 380 GPM and volume of up to 18.66 AF annually. The 19 groundwater wells (points of diversion), and places of use, are proposed to be located within a 20-lot subdivision near the southeast border of Great Falls, Montana, all in the NE1/4 Section 19, T20N, R4E, Cascade County (one lot will not contain a domestic residence). The purposes of use are Multiple Domestic (19 residences at a proposed volume of 7.41 AF) and Lawn and Garden irrigation (0.34 acres per residence, or 6.54 acres total, with a proposed volume of 11.25 AF). The planned, average volume for each individual lot is 0.39 AF for in-house domestic use (from January 1 through December 31), and 0.59 AF for lawn and garden irrigation (April 1 through October 31). Application.[2]

2. Total consumptive volume of the proposed project is calculated to be 11.95 AF. The in-house domestic use is projected to be 10 percent consumptive, with 90% returning to groundwater via wastewater disposal through drain fields, for a consumptive volume of 0.74 AF (diverted volume (7.41 AF) X 0.10 = 0.74 AF). Consumed volume for lawn and garden irrigation is estimated at 11.21 AF, based on net irrigation requirements of 1.71 AF per acre, as determined using the Irrigation Water Requirements program and locational data from a station at Great Falls Airport (1.71 AF/AC X 6.54 AC = 11.21 AF). Department Depletion Report.

A map of the proposed subdivision follows:

[2] On March 31, 2021 the Applicant submitted its deficiency letter response, which included major, substantive amendments to the flow rate and volume, and a reconfiguration of the proposed subdivision design. The elements in the Proposed Appropriation section, and other sections throughout this report, are shown as amended by the Applicant on March 31, 2021.



RJM ASSET MANAGEMENT
GW Beneficial Use Pemit Application
MAP GW-4
Section 19, T20N, R4E, Cascade Co., MT

HydroSolutions

BASIN CLOSURE

FINDINGS OF FACT

3. This Application is for Multiple Domestic and Lawn and Garden purposes and the source is groundwater. The project is located in the Missouri River Basin (hydrologic basin 41QJ), which is within the Upper Missouri River Basin Legislative Closure Area. Groundwater applications are exempted from the closure provided an applicant submits an accompanying hydrogeologic report and an aquifer recharge or mitigation plan. The Applicant submitted a hydrogeologic assessment and mitigation plan in this instance.

CONCLUSIONS OF LAW

4. DNRC cannot grant an application for a permit to appropriate water within the upper Missouri River basin until final decrees have been issued in accordance with Title 85, chapter 2, part 2, MCA, for all of the sub-basins of the upper Missouri River basin. § 85-2-343(1), MCA. The upper Missouri River basin consists of the drainage area of the Missouri River and its tributaries above Morony Dam. (§ 85-2-342(3), MCA). The proposed well(s) are located within the upper Missouri River basin closure area. This Application is for groundwater. The Application falls under the exceptions for the basin closure, § 85-2-343, MCA.

5. In reviewing an application for groundwater in a closed basin, the District Court in Sitz Ranch v. DNRC observed:

> The basin from which applicants wish to pump water is closed to further appropriations by the legislature. The tasks before an applicant to become eligible for an exception are daunting. The legislature set out the criteria discussed above (§85-2-311, MCA) and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting. It is inescapable that an applicant to appropriate water in a closed basin must withstand strict scrutiny of each of the legislatively required factors.

Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7.

A basin closure exception does not relieve the Department of analyzing § 85-2-311, MCA criteria. Qualification under a basin closure exception allows the Department to accept an

application for processing. The Applicant must still prove the requisite criteria. E.g., *In the Matter of Application for Beneficial Water Use Permit No. 41K-30043385 by Marc E. Lee* (DNRC Final Order 2011); *In the Matter of Application for Beneficial Water Use Permit No. 41K-30045713 by Nicholas D. Konen*, (DNRC Final Order 2011).

§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA

GENERAL CONCLUSIONS OF LAW

6. The Montana Constitution expressly recognizes in relevant part that:

> (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
> (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
> (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, §3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-102, MCA, which states in relevant part:

> (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
> (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

7. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment,

withdrawal, or related distribution works except by applying for and receiving a permit from the Department. See § 85-2-102(1), MCA. An applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

> … the department shall issue a permit if the applicant proves by a preponderance of evidence that the following criteria are met:
>
> (a) (i) there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; and
>
> (ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:
>
> (A) identification of physical water availability;
>
> (B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and
>
> (C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.
>
> (b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;
>
> (c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;
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> (d) the proposed use of water is a beneficial use;
>
> (e) the applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;
>
> (f) the water quality of a prior appropriator will not be adversely affected;
>
> (g) the proposed use will be substantially in accordance with the classification of water set for the source of supply pursuant to 75-5-301(1); and
>
> (h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.
>
> (2) The applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial

> credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, "the applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies." § 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Id. A preponderance of evidence is "more probably than not." Hohenlohe v. DNRC, 2010 MT 203, ¶¶33, 35.

8. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

> (1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, "uncontrolled development of a valuable natural resource" which "contradicts the spirit and purpose underlying the Water Use Act."); see also, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara*

L. Sowers (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); Admin. R. Mont. (ARM) 36.12.207.

9. The Montana Supreme Court further recognized in Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starner (1996), 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080, *superseded by legislation on another issue*:

> Nothing in that section [85-2-313], however, relieves an applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order* (2011). The Supreme Court likewise explained that:

> .... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; see also Mont. Const. art. IX §3(1).

10. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA is invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. § 85-2-311(6), MCA.

11. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

Physical Availability

FINDINGS OF FACT

12. The source is groundwater to be diverted from the Madison Aquifer, by means of 19 wells, from January 1 to December 31, at a combined flow rate of 380 GPM (0.85 cubic feet per second, or CFS) and volume of up to 18.66 AF annually. The Little Belt Mountains are the recharge area for the Madison Aquifer, and the aquifer discharges along fractures through overlying strata to the Missouri River and various springs, most prominent of which is Giant Springs. The anticipated production zone is a limestone layer beginning approximately 400 feet below ground surface, with alternating sequences of confining shale and sandstone above it. The project is generally located adjacent to the southeast border of Great Falls, Montana, in the NE1/4 Section 19, T20N, R4E. Application; Department Aquifer Test Report.

13. The Applicant provided an aquifer testing addendum, a hydrogeologic report, and an aquifer test data form (Form 633), with the application. The information was utilized by a Department Groundwater Hydrologist to assess physical water availability for the proposed project. The Department granted the following three variances for aquifer testing procedures to the applicant (applicant did not have to comply with the administrative rule requirements) based on a recommendation of Attila Folnagy, Department Groundwater Hydrologist. Folnagy determined that sufficient data was available without the three rule requirements to assess the application. Department Aquifer Testing Variance, October 13, 2020.

- 36.12.121(2)(d) Wellhead elevation, surveyed elevations[3];
- 36.12.121(3)(c) Discharge rate must be measured with a reliable measuring device and recorded with clock time according to the schedule on Form 633[4]; and

[3] Synoptic water level measurements in three wells with surveyed wellheads was not available.

- 36.12.121(3)(j) Groundwater levels in the production well and observation well(s) must be monitored at frequent intervals for at least two days prior to beginning the aquifer test to evaluate background water-level trends. An applicant must evaluate and correct for background water-level trends.[5]

14. One of the 19 proposed production wells was drilled in 2020 on Lot 18 and pump tested to determine physical water availability and aquifer properties (the remaining 18 wells will be drilled in the future as the lots are developed). The well is completed at 541 feet below ground surface. Monitoring and pumping phases of the aquifer test occurred between June 24 and July 1, 2020. The average pumping rate of the aquifer test was 26.9 gallons per minute (GPM) over a 74-hour pumping schedule, which is greater than the anticipated average pumping rate of each well (20 GPM). Discharge was measured with a Seametrics WMP101 electromagnetism 20inch flow meter. Application.

15. By assuming a maximum diversion of 18.66 AF and monthly pumping schedule for all 19 proposed wells, the Department modeled potential drawdown in the well completed on Lot 18. The results of modeling showed a total drawdown of 10 feet, leaving a remaining available water column for the well of 340.4 feet. Department Groundwater Hydrologist Evan Norman expects similar results for the other 18 pumping wells, assuming they are completed to a comparable depth. The modeling results show sufficient water available to the combination of wells to sustain the proposed flow rate of 380 GPM and volume of 18.66 AF. Department Aquifer Test Report.

16. Using the Theis Solution (1935) and data collected from other aquifer tests conducted in the area, the Department evaluated physical groundwater availability in the aquifer by calculating groundwater flow or flux through the zone-of-influence (width of 44,000 feet). The zone-of-influence (ZOI) corresponds to the 0.01-foot drawdown contour of pumping effects. Groundwater flux is the rate of discharge or flow of groundwater through a porous or fractured

[4] Discharge was recorded several times per hour for the first three hours of the test but was not recorded hourly thereafter because of operation problems with the datalogger. Rather, discharge was based on totalizer accounting of a flow meter installed in the pipeline.
[5] Water level monitoring did not occur prior to the aquifer test.

media. Modeling analysis was conducted by Department Groundwater Hydrologist Evan Norman with the following parameters: Transmissivity of 6,100 ft^2/day; Storativity of 3.2 x 10^{-3}; constant head boundary (Missouri River); and a constant pumping rate of 11.6 GPM (equivalent to the diverted volume of 18.66 AF converted to flow rate and averaged over the period of diversion). The calculation resulted in groundwater flow or flux through the zone-of-influence of 268,400 ft^3/day, or 2,249 AF annually. See Aquifer Test Report for further discussion and calculations.

17. The Department finds that aquifer-testing and modeling results show groundwater is physically available in the amount proposed to sustain the beneficial use.

CONCLUSIONS OF LAW

18. Pursuant to § 85-2-311(1)(a)(i), MCA, an applicant must prove by a preponderance of the evidence that "there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate."

19. It is the applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-41I by Anson* (DNRC Final Order 1987)(applicant produced no flow measurements or any other information to show the availability of water; permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005).

20. An applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

21. The Applicant has proven that water is physically available at the proposed point of diversion in the amount Applicant seeks to appropriate. § 85-2-311(1)(a)(i), MCA. (FOF 12-17)

Legal Availability

FINDINGS OF FACT

22. Groundwater – The Applicant proposes to appropriate groundwater from a limestone member of the Madison Aquifer. In the Great Falls area, the limestone member begins at approximately 400 feet below ground surface. Above that elevation lies the Swift and Kootenai formations, each containing aquifers. Department Aquifer Test Report.

23. Based on groundwater drawdown to the 0.01-foot contour, the predicted average width of the zone-of-influence is 44,000 feet. Groundwater flux through the ZOI is calculated to be 2,249 AF per year. Department Aquifer Test Report.

24. According to Department records, there are 334 water rights within the ZOI that appropriate groundwater. Of the 334 water rights, no well log or depth information was filed in the record for 172 of the water rights. The 172 water rights may be associated with wells or springs that draw water from aquifers lying above the Madison Aquifer. The 162 rights with known well depths have a combined annual appropriation (volume) of 1,058.5 AF.[6] By comparison, the estimated flux through the ZOI, or volume of water physically available annually, is 2,249 AF, leaving 1,190.5 AF legally available. Department Technical Report.

Table 1 – Comparison of Groundwater Physically Available to Legal Demands

Physically Available (AF/year)	Existing Legal Demands (AF/year)	Physically Available-Existing Legal Demands (AF/year)
2,249	1,058.5	1,190.5

25. The proposed appropriation is for 18.66 AF per year and there is 1,190.5 legally available within the source aquifer ZOI. The Department finds that groundwater is legally available in the amount requested under the proposed project.

[6] For purposes of calculating legal demands for this analysis, the Department will include all groundwater rights within the ZOI that appropriate groundwater from depths greater than 250 feet. The analysis will not include rights whose wells do not associate a depth with the water right.

Surface Water

26. The Little Belt Mountains are the recharge area for the Madison Group Aquifer. The aquifer discharges along fractures through overlying strata to the Missouri River and various springs around Great Falls, most prominent of which is Giant Springs. The locations of potentially affected surface waters depend on propagation of drawdown to locations where surface water is hydraulically connected to groundwater. Based on analysis by Department Groundwater Hydrologist Evan Norman, the proposed appropriation is predicted to deplete surface water in two general areas: 1) the reach of the Missouri River known as the Big Bend, with the upstream point beginning in Section 22, T19N, R3E, and extending to a point just downstream of the river's confluence with Sand Coulee Creek; and 2) the reach of the Missouri River near Giant Springs where the aquifer discharges to springs in the bed of the river and seeps along its southern bank. The Big Bend reach is upstream of the Giant Springs reach and is predicted to experience 70% of the total depletion (70% of the consumed volume of the appropriation) from the pumping well field, and the Giant Springs reach is predicted to experience 30% of the depletion. Considering the two reaches in combination, 100% of depletions will accrue to the downstream point of the Giant Springs reach. The rate and timing of depletions is displayed in the table below. Department Depletion Report; Department Technical Report.

Table 2 - Net Depletions to Missouri River by Proposed Groundwater Pumping

Month	Total Consumed (AF)	Total Net Depletion (AF)	Total Depletion Missouri River (GPM)	Depletion Missouri River – Big Bend Reach (GPM)	Depletion Missouri River – Giant Springs Reach (GPM)
January	0.06	1.01	7.4	5.2	2.2
February	0.06	0.92	7.4	5.2	2.2
March	0.06	1.01	7.4	5.2	2.2
April	0.29	0.98	7.4	5.2	2.2
May	1.53	1.01	7.4	5.2	2.2
June	2.24	0.98	7.4	5.2	2.2
July	3.17	1.01	7.4	5.2	2.2

August	2.85	1.01	7.4	5.2	2.2
September	1.43	0.98	7.4	5.2	2.2
October	0.14	1.01	7.4	5.2	2.2
November	0.06	0.98	7.4	5.2	2.2
December	0.06	1.01	7.4	5.2	2.2
Total	11.95	11.95			

27. The area of potential impact is the Missouri River between the Big Bend and Giant Springs reaches. For purposes of this Preliminary Determination, all legal demands from the upstream point at the Big Bend reach through the affected reach ending at the confluence of Giant Springs with the Missouri River will be considered for the legal availability analysis. The combined amount of water associated with all monthly legal demands within the reach is a flow rate range of 8,546 CFS to 9,658 CFS, and a volume range of 493,844 AF to 537,400 AF.[7] Following is a listing of existing water rights and water reservations within the reach. Department Technical Report.

Table 3 – Water Rights/Reservations on Missouri River from Big Bend to Giant Springs

41QJ 210174 00	41QJ 145815 00	41QJ 123410 00	41QJ 209537 00	41QJ 30123171
41QJ 30017519	41QJ 210164 00	41QJ 123411 00	41QJ 209756 00	41QJ 38603 00
41QJ 200204 00	41K 71890 00	41QJ 12564 00	41QJ 209757 00	41QJ 47201 00
41QJ 200250 00	41Q 105493 00	41QJ 13413 00	41QJ 209864 00	41QJ 53446 00
41QJ 200254 00	41Q 105494 00	41QJ 13457 00	41QJ 210063 00	41QJ 53466 00
41QJ 29447 00	41Q 19488 00	41QJ 1649 00	41QJ 210100 00	41QJ 55889 00
41QJ 36537 00	41Q 202265 00	41QJ 18663 00	41QJ 210161 00	41QJ 5785 00
41QJ 93921 00	41Q 22351 00	41QJ 19892 00	41QJ 210176 00	41QJ 58817 00
41QJ 93922 00	41Q 39801 00	41QJ 200179 00	41QJ 210273 00	41QJ 6375 00
41QJ 93923 00	41Q 7274 00	41QJ 200213 00	41QJ 214229 00	41QJ 6380 00
41QJ 209866 00	41Q 7877 00	41QJ 200249 00	41QJ 216167 00	41QJ 7937 00
41QJ 112229 00	41Q 8335 00	41QJ 200251 00	41QJ 216195 00	41QJ 80773 00
41QJ 210066 00	41Q 8336 00	41QJ 200252 00	41QJ 22229 00	41QJ 80776 00
41QJ 210190 00	41Q 8337 00	41QJ 200253 00	41QJ 22869 00	41QJ 80777 00
41QJ 44655 00	41Q 8338 00	41QJ 200265 00	41QJ 2374 00	41QJ 8278 00
41QJ 77856 00	41QJ 104228 00	41QJ 200284 00	41QJ 24150 00	41Q 110040 00

[7] Legal demands vary by month. The flow rate and volume ranges account for all water rights of record.

41QJ 128788 00	41QJ 104299 00	41QJ 200317 00	41QJ 26175 00	41Q 123409 00
41QJ 18128 00	41QJ 10460 00	41QJ 200354 00	41QJ 27502 00	41Q 124852 00
41QJ 200260 00	41QJ 105693 00	41QJ 200355 00	41QJ 27889 00	41Q 124862 00
41QJ 200299 00	41QJ 105694 00	41QJ 200807 00	41QJ 28870 00	41Q 124863 00
41QJ 200303 00	41QJ 105697 00	41QJ 200956 00	41QJ 28871 00	41Q 13308 00
41QJ 200312 00	41QJ 10731 00	41QJ 203820 00	41QJ 30002770	41Q 94354 00
41QJ 202453 00	41QJ 109999 00	41QJ 208129 00	41QJ 30002773	41Q 94355 00
41QJ 208124 00	41QJ 11293 00	41QJ 208137 00	41QJ 30012235	41Q 94356 00
41QJ 23982 00	41QJ 11294 00	41QJ 208138 00	41QJ 30012279	41Q 94357 00
41QJ 47202 00	41QJ 11648 00	41QJ 209396 00	41QJ 30048463	41Q 94359 00
41QJ 145813 00	41QJ 123408 00	41QJ 209454 00	41QJ 30110713	

28. Three U.S. Geological Survey (USGS) stream gages exist on the Missouri River in the general area of Great Falls. For purposes of this analysis, the Department will only consider gaged data at the Missouri River near Ulm, Montana (Gage No. 06078200), which is located approximately 8.5 miles upstream of the beginning of the depleted reach at Big Bend. No other stream gage analysis is necessary because the Applicant plans on mitigating its predicted full depletion by executing a water service contract with the U.S. Bureau of Reclamation.[8] The following table displays median of the mean monthly discharge data for the Ulm stream gage for its 63-year period of record.

Table 4 – Median of the Mean Monthly Discharge Data - Missouri River near Ulm, MT (USGS Gage No. 06078200)

	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**
Flow (CFS)	5,327	5,484	5,606	6,415	7,954	9,721
Volume (AF)	327,514	315,443	344,669	381,689	489,072	578,440
	Jul	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Flow (CFS)	6,351	4,512	4,335	4,394	4,651	5,344
Volume (AF)	390,508	277,432	257,950	270,177	276,724	328,559

[8] According to Administrative Rule of Montana 36.12.1704(1)(a), an applicant may use a plan for mitigation or aquifer recharge, as generally defined in 85-2-102, MCA, as a means of showing water is legally available.

29. Table 5 shows a monthly comparison of the estimated physical water supply (data displayed in Table 4) and existing legal demands on the Missouri River. Monthly surface water legal demands were based on flow rate, animal units, or maximum volume.

Table 5: Water Physically Available in the Missouri River near Ulm, Minus Monthly Legal Demands from the River between Big Bend and Giant Springs.

Month	Estimated Physical Availability (CFS)	Existing Legal Demands (CFS)	Physically Available – Existing Legal Demands (CFS)	Estimated Physical Availability (AF)	Existing Legal Demands (AF)	Physically Available – Existing Legal Demands (AF)
January	5,327	8,546	-3,220	327,514	527,727	-200,213
February	5,484	8,546	-3,062	315,443	493,844	-178,400
March	5,606	8,559	-2,953	344,669	528,486	-183,817
April	6,415	9,652	-3,238	381,689	520,201	-138,511
May	7,954	9,658	-1,704	489,072	537,378	-48,306
June	9,721	9,658	63	578,440	520,475	57,965
July	6,351	9,658	-3,307	390,508	537,400	-146,892
August	4,512	9,657	-5,145	277,432	537,352	-259,920
September	4,335	9,657	-5,322	257,950	520,417	-262,466
October	4,394	9,653	-5,259	270,177	537,171	-266,995
November	4,651	8,557	-3,907	276,724	511,493	-234,769
December	5,344	8,547	-3,204	328,559	527,792	-199,233

30. Table 5 shows that legal demands exceed water physically available on the Missouri River during all months except June.[9] No further analysis will be conducted by the Department using downstream gages because the Applicant plans on mitigating the full depletion effects to the Missouri River by purchasing a water service contract from the U.S. Bureau of Reclamation (USBOR). The Applicant proposes to purchase a water service contract from the USBOR for an amount equal to the consumed volume, or 11.95 AF. USBOR will release water from its Canyon

[9] The legal demands data include substantial non-consumptive water uses for hydropower and instream flows for fishery purposes (and other non-consumptive uses), therefore the negative values should not be interpreted as a reflection on the physical water supply.

Ferry project which will replace depletions through the entire reach of the river impacted by the proposed appropriation. Mitigation is successfully executed when the USBOR releases water in an annual amount equal to consumption. Application.

31. Based on the Applicant's plan to fully mitigate depletions to the Missouri River by executing a water service contract with the USBOR, the Department finds that surface water is legally available. Administrative Rule of Montana 36.12.1704(1)(a).

CONCLUSIONS OF LAW

32. Pursuant to § 85-2-311(1)(a), MCA, an applicant must prove by a preponderance of the evidence that:

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; Montana Power Co., 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

33. It is the applicant's burden to present evidence to prove water can be reasonably considered legally available. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting.); see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on applicant in a change proceeding to prove required criteria); *In the Matter of*

Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC., (DNRC Final Order 2005))(it is the applicant's burden to produce the required evidence.); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC* (DNRC Final Order 2007)(permit denied for failure to prove legal availability); see also ARM 36.12.1705.

34. Pursuant to Montana Trout Unlimited v. DNRC, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. E.g., Wesmont Developers v. DNRC, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(mitigation of depletion required), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); see also Robert and Marlene Takle v. DNRC *et al.*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing* Smith v. Duff, 39 Mont. 382, 102 P. 984 (1909), and Perkins v. Kramer, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing* Loyning v. Rankin (1946), 118 Mont. 235, 165 P.2d 1006; Granite Ditch Co. v. Anderson (1983), 204 Mont. 10, 662 P.2d 1312; Beaverhead Canal Co. v. Dillon Electric Light & Power Co. (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No.* 63997-*42M by Joseph F. Crisafulli* (DNRC Final Order 1990)(since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all

groundwater rights in the drainage.) Because the applicant bears the burden of proof as to legal availability, the applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration and cannot limit its analysis to ground water.§ 85-2-311(a)(ii), MCA. Absent such proof, the applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 By Utility Solutions LLC* (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 ; Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

35. Where a proposed ground water appropriation depletes surface water, applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. Robert and Marlene Takle v. DNRC *et al.*, Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(permits granted), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007*)*(permit granted), *affirmed*, Montana River Action Network et al. v. DNRC et al., Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal availability outside of irrigation season (where mitigation applied)); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC* (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit denied in part for failure to

analyze legal availability for surface water depletion); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and Beaverhead River); Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12 ("DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator"; applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-30045578 by GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for "historic beneficial use" in analyzing legal availability of surface water under § 85-2-360(5), MCA. Royston, supra.

36. In analyzing legal availability for surface water, applicant was required to evaluate legal demands on the source of supply throughout the "area of potential impact" by the proposed use under §85-2-311(1)(a)(ii), MCA, not just within the "zone of influence." Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 6.

37. Use of published upstream gauge data minus rights of record between gauge and point of diversion adjusted to remove possible duplicated rights shows water physically available. Using same methodology and adding rights of record downstream of point of diversion to the mouth of the stream shows water legally available. *In the Matter of Application for Beneficial Water Use Permit No. 41P-105759 by Sunny Brook Colony* (DNRC Final Order 2001); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992);

38. Applicant has proven by a preponderance of the evidence that groundwater can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department. § 85-2-311(1)(a)(ii), MCA. (FOFs 22-25)

39. Based on the Applicant's proposed mitigation plan (purchase a water service contract from the USBOR), the Department finds that the Applicant has proven by a preponderance of the evidence that surface water can reasonably be considered legally available during the period in which the Applicant seeks to appropriate, in the amount requested. (FOFs 26-31)

Adverse Effect

FINDINGS OF FACT

40. Groundwater – The Applicant conducted a 74-hour aquifer test on the pumping well with an average pumping rate of 26.9 GPM. One observation well, completed at a depth of 480 feet and located 460 feet in distance from the pumping well, was monitored during the pump test. The monitoring well experienced maximum drawdown of 1.7 feet below its static water level of 188.1 feet, leaving 290.2 feet of available water column in the well. Department Aquifer Test Report.

41. The average width of the ZOI, or the modeled areal extent of groundwater drawdown to the 0.01-foot contour, is 44,000 feet. The legal demands of water rights within the ZOI is 1,058.5 AF, and the estimated groundwater flux through the zone is 2,249 AF. Flux, or volume of water physically available annually, exceeds legal demands by 1,190.5 AF. FOF 23; Department Technical Report.

42. An evaluation of drawdown in existing wells within the 1-foot drawdown contour was conducted by Department Groundwater Hydrologist Evan Norman using the Theis (1935) solution with the following parameters: Transmissivity = 6,100 ft^2/day; Storativity = 3.2 x 10^{-3}; a constant head boundary (Missouri River); and a constant pumping rate of 11.6 gallons per minute (equivalent to the diverted volume of 18.66 AF converted to flow rate and averaged over the period of diversion). The Department's modeling shows that after five years of an assumed

monthly pumping schedule, drawdown in excess of 1-foot extends no greater than 10 feet from the proposed wells. There are no water rights in the source aquifer that are predicted to experience drawdown greater than 1 foot. Department Aquifer Test Report.

43. Per the Applicant's plan to prevent adverse effects, if a valid call is made by a senior appropriator in the Madison Aquifer, the Applicant will honor the call. Application.

44. Based on information included in the application, water right records, and Groundwater Hydrologist Norman's assessment, the Department finds that groundwater rights will not be adversely affected by the proposed appropriation.

Surface Water

45. Water is *physically* available in the Missouri River (the hydraulically connected surface water source) in all months of the proposed period of diversion, but it is not *legally* available in any month but June. Finding of Fact No. 29.

46. The Applicant's mitigation plan is to replace the entire surface water depletion (11.95 AF) by purchasing a water service contract from the U.S. Bureau of Reclamation. Water will be released to the Missouri River from USBORs upstream Canyon Ferry project, flow down through the Big Bend and Giant Springs reaches, and fully replace depletions. The Department has imposed a condition in this Preliminary Determination mandating the purchase of a Water Service Contract from the BOR in the amount of the annual depletion to the Missouri River. Conditions Section.

47. Based on the Applicant's plan to purchase a water service contract from the USBOR to mitigate depletions to the Missouri River, the Department finds there will be no adverse effect to other surface water rights.

CONCLUSIONS OF LAW

48. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Analysis of adverse effect must be determined based on a consideration of an applicant's plan for

the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. See Montana Power Co. (1984), 211 Mont. 91, 685 P.2d 336 (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); Bostwick Properties, Inc. ¶ 21.

49. An applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. Id. ARM 36.12.120(5).

50. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 4.

51. In analyzing adverse effect to other appropriators, an applicant may use the water rights claims of potentially affected appropriators as evidence of their "historic beneficial use." See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054.

52. It is the applicant's burden to produce the required evidence. E.g., Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision,* (2011) Pg. 7 (legislature has placed the burden of proof squarely on the applicant); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005). (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Bostwick Properties, Inc. ¶ 21.

53. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order,* (2011) Pg. 8.

54. The Department can and routinely does, condition a new permit's use on use of that special management, technology or measurement such as augmentation now generally known as mitigation and aquifer recharge. See § 85-2-312; § 85-2-360 et seq., MCA; see, e.g., *In the Matter of Beneficial Water Use Permit No. 107-41I by Diehl Development* (DNRC Final Order 1974) (No adverse effect if permit conditions to allow specific flow past point of diversion.); *In the Matter of Combined Application for Beneficial Water Use Permit No. 76H- 30043133 and Application No. 76H-30043132 to Change Water Right Nos. 76H-121640-00, 76H-131641-00 and 76H-131642-00 by the Town of Stevensville* (DNRC Final Order 2011).

55. Pursuant to § 85-2-362, MCA, a mitigation plan must include: where and how the water in the plan will be put to beneficial use; when and where, generally, water reallocated through exchange or substitution will be required; the amount of water reallocated through exchange or substitution that is required; how the proposed project or beneficial use for which the mitigation plan is required will be operated; evidence that an application for a change in appropriation right, if necessary, has been submitted; evidence of water availability; and evidence of how the mitigation plan will offset the required amount of net depletion of surface water in a manner that will offset an adverse effect on a prior appropriator.

56. In this case Applicant proposes to mitigate its full consumptive use under the proposed appropriation. This mitigation provides mitigation of full depletion of surface waters by the proposed appropriation in amount, location, and duration of the depletion. Because Applicant proposes to mitigate the full amount of its consumptive use, there is no adverse effect from depletion of surface waters to the historic beneficial use of surface water rights. E.g., *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 By Utility Solutions LLC* (DNRC Final Order 2008).

57. The Applicant has proven by a preponderance of the evidence that groundwater and surface water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. § 85-2-311(1)(b), MCA. (FOFs 40-47)

Adequate Diversion

FINDINGS OF FACT

58. The proposed appropriation is a flow rate of 380 GPM up to 18.66 AF in volume. Groundwater will be diverted from the Madison Aquifer by 19 production wells with average water usage of 20 GPM and 0.98 AF per lot (0.39 AF for in-house domestic use and 0.59 AF for lawn and garden use). Application.

59. All wells will be equipped with submersible pumps and conveyance lines to homesites. The domestic lines will include a pressure tank. Lawn and garden sprinkler systems will be designed and installed by local contractors using standard lawn irrigation equipment, including a control box. Each well will be drilled and completed to construction standards by a licensed Montana water well contractor. Application.

60. The Department modeled pumping schedules for the combination of water uses and determined that 10 feet of drawdown could be experienced in each well, leaving 340 feet of available water column in the wells to draw from. An assumption was made in the modeling effort that each well will be completed to the same depth of the existing well used for the aquifer test, and to ensure the diversion works for all wells are completed in the proposed source aquifer (Madison Aquifer), the Department has imposed a condition requiring such. The modeling results show the wells will have the capacity to appropriate the proposed amount of water without adversely interfering with one another. Department Aquifer Test Report; Conditions Section.

61. According to the application materials, the Applicant will confirm the adequacy of each diversion works (19 wells) by conducting 8-hour yield/drawdown tests as the wells are completed. The Department will impose a requirement of 8-hour yield/drawdown tests as proof the diversion works are adequate. Application; Conditions Section.

62. The Department finds the proposed diversion works to be adequate for the proposed appropriation.

CONCLUSIONS OF LAW

63. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

64. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

65. *Water wells must be constructed according to the laws, rules, and standards of the Board of Water Well Contractors to prevent contamination of the aquifer. In the Matter of Application for Beneficial Water Use Permit No.* 41I-105511 *by Flying J Inc.* (DNRC Final Order 1999).

66. Information needed to prove that proposed means of diversion, construction, and operation of the appropriation works are adequate varies, based upon project complexity design by licensed engineer adequate. *In the Matter of Application for Beneficial Water Use Permit No. 41C-11339900 by Three Creeks Ranch of Wyoming LLC* (DNRC Final Order 2002).

67. Specific ditch segments would be adequate after completion of maintenance and rehabilitation work. *In the Matter of Application for Beneficial Water Use Permit No. 43B-30002710 by USDA.* (DNRC Final Order 2005).

68. Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. § 85-2-311(1)(c), MCA (FOFs 58-62)

Beneficial Use

FINDINGS OF FACT

69. The proposed beneficial use is a flow rate of 380 GPM and volume of 18.66 AF (diverted volume), and the purposes of water use are multiple domestic and lawn and garden. The flow rate is based on an estimated withdrawal capacity of 20 GPM for each of 19 groundwater wells. The volume is based on per-lot water usage of 0.39 AF for in-house domestic use (7.41 AF total

for 19 households), and 0.59 AF for approximately 1/3 acre of lawn and garden irrigation (11.25 AF total for 19 lots). The volume of 0.39 AF for in-house domestic use is based on a Montana Department of Environmental Quality standard of 100 gallons/day/capita, and an estimated average household presence of 3.5 people (3.5 X 100 gal/day X 365 days ÷ 325,851 gal/AF = 0.39 AF).[10] The volume for lawn and garden is based on USDA Irrigation Water Requirements for turf irrigation in the Great Falls area (6.54 acres X 1.71 AF/ac = 11.25 AF).

70. The Applicant plans on installing individual flow meters in the diversion works for each well and submitting a combined water use report to the Department annually (joint report for all individual groundwater appropriations). Application.

71. The Department finds the proposed purposes of multiple domestic and lawn and garden, and the amounts associated with each purpose, to be beneficial.

CONCLUSIONS OF LAW

72. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

73. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. E.g., McDonald, supra; Toohey v. Campbell (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. E.g., Bitterroot River Protective Association v. Siebel, *Order on Petition for Judicial Review*, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds*, Dee Deaterly v. DNRC *et al*, Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); Worden v. Alexander (1939), 108 Mont. 208, 90 P.2d 160; Allen v. Petrick

[10] Montana DEQ-3 (Standards for Small Water Systems); sections 3.2.1.2(a).

(1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

Amount of water to be diverted must be shown precisely. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 3 (citing BRPA v. Siebel, 2005 MT 60, and rejecting applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

74. Applicant proposes to use water for multiple domestic and lawn and garden irrigation, which are recognized beneficial uses. § 85-2-102(4), MCA. Applicant has proven by a preponderance of the evidence multiple domestic and lawn and garden are beneficial uses and that a flow rate of 380 GPM and diverted volume of 18.66 AF is the amount needed to sustain the beneficial uses. § 85-2-311(1)(d), MCA. (FOFs 69-71)

Possessory Interest

FINDINGS OF FACT

75. A representative of the corporation owning the property signed the application affirming it has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use.

CONCLUSIONS OF LAW

76. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

77. Pursuant to ARM 36.12.1802:

> (1) An applicant or a representative shall sign the application affidavit to affirm the following:

(a) the statements on the application and all information submitted with the application are true and correct and
(b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the applicant has possessory interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.
(2) If a representative of the applicant signs the application form affidavit, the representative shall state the relationship of the representative to the applicant on the form, such as president of the corporation, and provide documentation that establishes the authority of the representative to sign the application, such as a copy of a power of attorney.
(3) The department may require a copy of the written consent of the person having the possessory interest.

78. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. § 85-2-311(1)(e), MCA. (FOF 75)

PRELIMINARY DETERMINATION

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 41QJ 30150342 should be GRANTED.

The Department determines the Applicant may divert groundwater by means of 19 wells completed in the Madison Aquifer. The period of diversion is from January 1 to December 31 at combined flow rate of 380 gallons per minute up to 18.66 acre-feet, from 19 points in the NE1/4 Section 19, Township 20N, Range 4E, Cascade County. The period of use for multiple domestic purposes (7.41 acre-feet) is January 1 to December 31 and the period of use for lawn and garden irrigation (11.25 acre-feet) is April 1 to October 31. The place of use is in the NE1/4 Section 19, Township 20N, Range 4E, Cascade County.

The potentially affected (depleted) surface water source is the reach of the Missouri River between Big Bend and the confluence of Giant Springs with the river. The Applicant shall

mitigate net depletions to the Missouri River by purchasing a water service contract from the U.S. Bureau of Reclamation in the amount of 11.95 AF. Diversion under this Permit must stop if the mitigation plan as herein required in amount, location and duration ceases in whole or in part.

CONDITIONS

THE APPLICATION WILL BE SUBJECT TO THE FOLLOWING CONDITIONS, LIMITATIONS OR RESTRICTIONS.

WATER USE MEASUREMENT

THE APPROPRIATOR IS RESPONSIBLE FOR THE ACCOUNTING OF APPROPRIATIONS FROM ALL WELLS. EACH WELL SHALL INCLUDE INSTALLATION OF DEPARTMENT APPROVED IN-LINE FLOW METERS IN ITS DELIVERY LINE. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICES ARE IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, THE APPROPRIATOR SHALL KEEP A WRITTEN ANNUAL RECORD OF THE VOLUME OF ALL WATER DIVERTED.

RECORDS SHALL BE SUBMITTED TO THE LEWISTOWN WATER RESOURCES REGIONAL OFFICE BY JANUARY 31ST OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. THE APPROPRIATOR SHALL ENSURE MAINTAINANCE OF THE MEASURING DEVICES SO THEY ALWAYS OPERATE PROPERLY AND MEASURE FLOW RATE AND VOLUME ACCURATELY.

MITIGATION PLAN

PRIOR TO COMMENCING DIVERSIONS UNDER THIS PERMIT, THE APPROPRIATOR SHALL MAKE PROVISION TO MITIGATE ADVERSE EFFECT TO SURFACE WATER RIGHTS BY REPLACING THE FULL CONSUMED VOLUME OF THE APPROPRIATION. THE APPROPRIATOR IS RESPONSIBLE FOR ENSURING THE REPLACEMENT OF AN EQUIVALENT AMOUNT OF WATER TO THE MAINSTEM OF THE MISSOURI RIVER IN THE FOLLOWING MANNER: DEPLETIONS TO SURFACE WATER SHALL BE MITIGATED THROUGH THE PURCHASE OF A U.S. BUREAU OF RECLAMATION (BOR) WATER SERVICE CONTRACT ASSOCIATED WITH RELEASES FROM CANYON FERRY RESERVOIR. THE VOLUME OF WATER STATED ON THE CONTRACT MUST BE AT LEAST 11.95 ACRE-FEET PER YEAR.

THE APPROPRIATOR SHALL SUBMIT TO THE LEWISTOWN REGIONAL OFFICE PROOF OF ITS FIRST YEAR'S WATER SERVICE CONTRACT WITH BOR BY JANUARY 31 OF THE FIRST YEAR A CONTRACT IS EXECUTED. A COPY OF FUTURE WATER SERVICE CONTRACTS SHALL BE SUBMITTED TO THE DEPARTMENT UPON

REQUEST. DIVERSION UNDER THIS PERMIT MAY NOT COMMENCE UNTIL A WATER SERVICE CONTRACT WITH THE BOR IS EXECUTED. DIVERSION UNDER THIS PERMIT MUST STOP IF ANY PART OF THE REQUIRED MITIGATION CEASES.

IMPORTANT INFORMATION

NOTIFICATION REQUIRED: THE APPROPRIATOR SHALL RECORD A DOCUMENT IN THE COUNTY COURTHOUSE THAT SERVES AS NOTIFICATION TO ALL PROPERTY OWNERS OF SUBDIVISION LOTS 1-19 THAT: 1) ONLY ONE WELL MAY BE DRILLED ON EACH LOT; 2) THE WELL MUST APPROPRIATE WATER FROM THE MADISON AQUIFER; AND 3) WATER USE MUST BE MEASURED AND RECORDED AS DESCRIBED IN THIS PERMIT. THE APPROPRIATOR SHALL SUBMIT A COPY OF THE RECORDED DOCUMENT IDENTIFYING THESE CONDITIONS TO THE WATER RESOURCES REGIONAL OFFICE.

IMPORTANT INFORMATION

THE APPROPRIATOR SHALL CONDUCT AN 8-HOUR DRAWDOWN AND YIELD TEST ON EACH WELL, UPON WELL COMPLETION, AND SUBMIT TEST RESULTS ON DNRC FORM 633 TO THE DEPARTMENT. WELLS SHALL NOT BE USED UNTIL DRAWDOWN AND YIELD TEST RESULTS HAVE BEEN SUBMITTED TO THE DEPARTMENT. FAILURE TO SUBMIT DRAWDOWN AND YIELD TEST RESULTS PRIOR TO BENEFICIAL USE OF WATER MAY BE CAUSE FOR REVOCATION OF THIS PERMIT.

IMPORTANT INFORMATION

WELL LOGS: THE APPROPRIATOR SHALL SUBMIT A COPY OF THE WELL LOG ASSOCIATED WITH EACH OF THE NINETEEN WELLS TO THE DPEARTMENT BY DECEMBER 31 OF THE YEAR THAT THE WELL(S) WAS DRILLED. WELL LOGS SHALL BE SENT TO THE FOLLOWING LOCATION.

LEWISTOWN WATER RESOURCES REGIONAL OFFICE
613 NE MAIN ST, SUITE E
LEWISTOWN, MT 59457

NOTICE

This Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to §§ 85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§ 85-2-307, and -308, MCA. If this Application receives no valid objection or all valid objections are unconditionally withdrawn, the Department will grant this Application as herein approved. If this Application receives a valid objection, the application and objection will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and § 85-2-309, MCA. If valid objections to an application are received and withdrawn with stipulated conditions and the department preliminarily determined to grant the permit or change in appropriation right, the department will grant the permit or change subject to conditions necessary to satisfy applicable criteria.

DATED this 16th day of July 2021.

/Original signed by Scott Irvin/
Scott Irvin, Regional Manager
Lewistown Regional Office
Department of Natural Resources and Conservation

CERTIFICATE OF SERVICE

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 16th day of July 2021, by first class United States mail.

RJM ASSET MANAGEMENT LLC
2801 26TH ST S
GREAT FALLS, MT 59405-8128

DAVE BALDWIN
HYDROSOLUTIONS INC
303 CLARKE ST
HELENA, MT 59601

_____ _____

NAME DATE